State of Alaska
Department of Fish and Game
Nomination for Waters
Important to Anadromous Fish

1988
Year of Revision

88-024

Anadromous Water Catalog Volume SC II

USGS Quad Seldovia D-3

Name of Waterway Bradley River

Anadromous Water Catalog Number of Waterway

241-14-10625-2010

Change to _____ Atlas

_____ Catalog

_____ Both

Addition _____

Deletion _____

Correction _____

Name addition:

USGS name _____

Local name _____

For Office Use

Nomination # _____

_____ Regional Supervisor 11/4/87 Date

SES D 11/23/87

FI Drafted 11/19/87 Date

Species	Date(s) Observed	Spawning	Rearing	Migration
Chum Salmon		X		
Chinook Salmon				

Comments: Provide any clarifying information, including number of fish observed, location of fish survey data, etc.

Attach a copy of a map showing location of mouth and upper points of each species, specific stream reaches identified for spawning or rearing, locations of barriers, such as falls. Attach a copy of the fish survey data, if available.

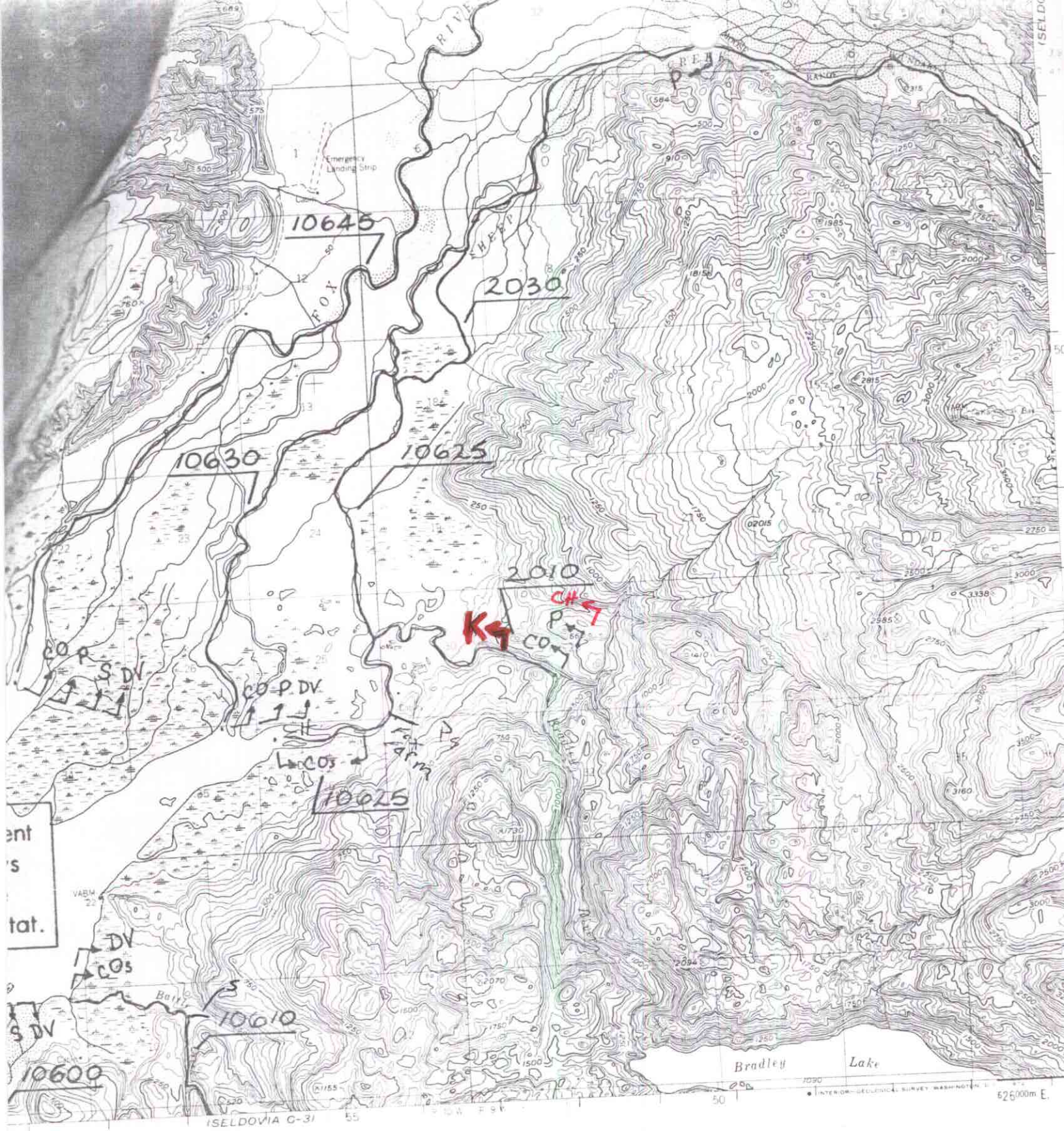
Name of Observer (please print) DAVID Trudgen (AK Power A

Date: 11/2/87 Signature: David Trudgen

Address: PO Box 190869
Anchorage, AK 99519

Signature of Area Biologist: _____

ACE 7784855+1S



SCALE 1:63360

4 MILES

ROAD CLASSIFICATI

Trails

CONTOUR INTERVAL 50 FEET

SHORELINE SHOWN REPRESENTS THE APPROXIMATE LINE OF MEAN HIGH WATER

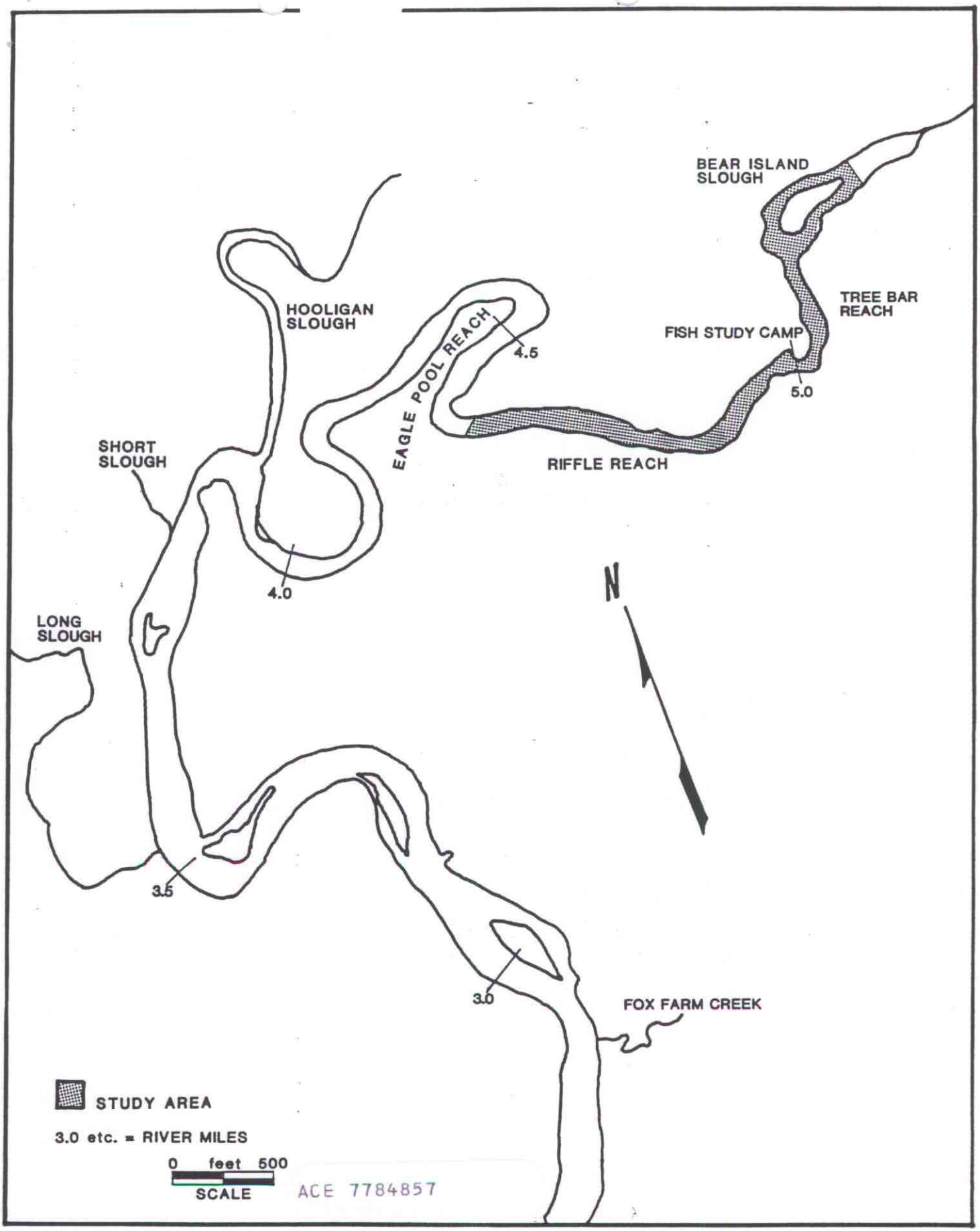
ALASKA

QUADRANGLE LOCATION

SELDOVIA (D-3), ALAS

1951

ACE 7784856



LOWER BRADLEY RIVER WITH SALMON ESCAPEMENT STUDY AREA

FIGURE 1

Pink Salmon

Table 2 summarizes the hoop net catch data for pink salmon for each net and for each study week. The composite catch per hour (Figure 4) indicates that the run began in mid-July, built to a peak in late August, then declined rapidly. By September 13 there were few pink salmon left in the river and those that were present were mostly spawned out. Figure 4 should be interpreted cautiously because not all nets were employed in each study week and, therefore, the effort from week to week was not consistently uniform. The very high water conditions in week 7 prevented the use of some nets thus preventing a full set of data during the probable peak of the run. Nevertheless, it is felt that the general trends indicated in Figure 4 are a real indication of the changes that occurred in the pink salmon population during the course of the study.

Chum Salmon

Table 3 summarizes the hoop net catch data for chum salmon and Figure 5 illustrates the composite catch per hour. Significant numbers of chum salmon were present in the river at the start of the study in mid-July. The peak abundance appeared to occur in late July with the number of fish declining rapidly throughout August. Few chum salmon were present after the third week in August. Judging from the progressive condition of the fish from the beginning to the end of the study, there appears to be little doubt that the chum salmon were spawning in the Bradley River.

Chinook Salmon

The catch statistics for chinook salmon (Table 4) indicate that small numbers of chinooks were present in the river through the third week in August with greatest numbers occurring during the first 2 weeks of August. Many of the fish caught in the hoop nets were caught more than once and net number 6 in Bear Island Slough caught by far the most chinook salmon. Recapture data indicate that 28 individual chinook salmon were captured of which 10 were females, 10 were mature males, and 8 were jacks (small, precocious males). Several of the fish were recaptured more than once and spent at least several weeks in Bear Island Slough. The progressive condition of the fish from pre-spawning to spawned out through the course of the study suggests that a least some of the chinook salmon spawned within the slough.

These est , although based on seine hauls at a single location, are reasonably close to the combined hoop net and seine estimates.

There is no accurate way to estimate the total pink salmon escapement. If it is assumed that the peak occurred in Week 7 and there is a complete turnover of fish every 2 weeks, then a rough estimate can be made by adding the estimates for weeks 4 and 7 together. Using these assumptions, the estimated total run size is about 4200 pink salmon. Another approach, consistent with the method used by Alaska Department of Fish and Game to determine total escapement from weekly surveys (Pirtle and McCurdy 1980), is to sum the weekly population estimates and divide by 2.5. Applying this method to the Table 6 estimates gives a total escapement of 4826 pink salmon.

Chum Salmon

Population estimates for chum salmon using mark and recapture data from the hoop nets are not meaningful. Chum salmon were not tagged, consequently individual fish could not be separated. It was, therefore, impossible to determine whether marked fish had been marked prior to a sample week or within a sample week. In addition, there was a tendency to catch the same fish over and over again within any given hoop net in any given week. In the latter weeks of the chum salmon run, a significant portion (50-70%) of the fish caught had been marked previously (Table 1). During the study period, 246 unmarked chum salmon were captured. The recapture data suggest that at least 50 percent of the fish in the study area had been marked. The total number of chum salmon in the Bradley River study area was very likely between 250 and 500 fish.

Pink Salmon Straying

Pink salmon with Bradley Lake Project tags were found at several locations outside of the study area. A fish tagged in the Bradley River on August 14 was recovered in Clear Water Slough, a tributary to the Fox River, on August 21 (Wunderlich, personal communication). Another tagged fish was seen in Clear Water Slough but not captured. A third fish tagged in the Bradley River on August 14 was caught by a fisherman in Mud Bay near Homer on August 22. Another fish tagged on September 4 was recovered near Swift Creek on the north side of Kachemak Bay on September 9. As mentioned earlier, 15 tags were recovered in Fox Farm Creek, a tributary to the lower Bradley River, about 1.6 miles downstream from the study area. It is evident from the above data that a